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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,589

08/24/2006

Hiroyuki Nabeta

06578/HG

8491

1933 7590 12/11/2008
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EXAMINER

HA, NATHAN W

ART UNIT

PAPER NUMBER

2814

MAIL DATE

DELIVERY MODE

12/11/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,589	Applicant(s) NABETA ET AL.	
	Examiner Nathan W. Ha	Art Unit 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Höhn et al. (US 6,277,301, previously cited, hereinafter Höhn) and in view of Suzuki et al. (JP 2003327961, previously cited, hereinafter, Suzuki) and Weidman et al. (US 6,583,071, newly cited, hereinafter, Weidman.)

In regard to claim 6, Höhn, in figs. 1-5, discloses a method of manufacturing a white light emitting diode 1, comprising a resin layer including phosphor in the potting composition 5 to convert blue light into yellow light, provided on a blue light emitting diode, the method comprising a step of forming the phosphor layer comprising an inorganic compound containing a phosphor, col. 3, lines 40-45 and col. 4, lines 23-29. However, Höhn does not disclose the method comprising a step of forming the phosphor layer via an aerosol deposition method.

As previously mentioned, Suzuki discloses an analogous method including a step of forming an inorganic phosphor compound via liquid phase or a spray pyrolysis (aerosol). At the time the invention was made, it would have been obvious to a person having ordinary skill in the art to use the aerosol method teaching of Suzuki in the

method of manufacturing white light LED of Chua, because it would have provided an inorganic phosphor layer having excellent dispersion stability and emission characteristics as taught by Suzuki, see abstract.

It is further noted that, the method as mentioned by Suzuki, spray pyrolysis, is normally carried out in a chamber where the pressure is different than normal room pressure. Suzuki, however, does not expressly disclose that the process is in fact is in a vacuum. Weidman, in figure 2, disclose an analogous device and the method of making the layers in a chamber in order to control the particle speed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to realize that the spray process could be done in a chamber, or vacuum.

In regard to claims 7-10, the phosphor is an inorganic compound, and the oxide is selected from Aluminum (silica), for example. See also, col. 4, lines 25-30.

3. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Holn and Suzuki and Weidman as applied to claim 6 above, and further in view of Murakami et al. (newly cited, US 2008/0291573, hereinafter, Murakami.)

4. In regard to claim 11, the above combination discloses all of the claimed limitation as mentioned, except for the rate of the film formation. Murakami, in front figure, discloses an analogous device and a method of making the layer, spray, for example. Murakami, further discloses that the formation rate is approximately similar to the rate as being claimed in order to reduce the time of the process of forming the layer.

Response to Arguments

5. Applicant's arguments with respect to claims 6-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan W. Ha whose telephone number is (571) 272-1707. The examiner can normally be reached on M-TH 8:00-7:00(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2814

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nathan W. Ha/
Primary Examiner, Art Unit 2814